

Notice of Allowability

Application No.

10/524,853

Examiner

DONGHAI D. NGUYEN

Applicant(s)

OKUDA ET AL.

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE and Amendment filed on April 30, 2009.
2. ☒ The allowed claim(s) is/are 12 and 13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date herein.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 30, 2009 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with ALDO A. D'OTTAVIO on July 6, 2009.

The application has been amended as follows:

In the claims:

Claims 12 and 13 have been amended as follows:

12 (currently amended) A component placing method comprising:

holding each of the plurality of ~~one or more~~ components releasably by a respective component holding member of a plurality of ~~one of one or more~~ component holding members, each component holding member of the plurality of ~~of the one or more~~ component holding

members having a central axis and the plurality of one or more component holding members being arranged in a row;

sequentially capturing an image of each component ~~images of the one or more~~ components held by the respective ~~one or more~~ respective component holding member ~~members~~ and sequentially capturing an image of each component ~~images of the one or more components~~ from a direction generally orthogonal to both the central axis ~~axes~~ of the ~~one or more~~ respective component holding member ~~members~~ and a direction of the arrangement of the plurality of one or more component holding members;

recognizing a holding posture of each component ~~postures of the one or more~~ components on the respective component holding member ~~members~~ on a basis of the image ~~images~~ captured from the direction along the central axis ~~axes~~ of the ~~one or more~~ respective component holding member ~~members~~ and the image ~~images~~ captured from the direction generally orthogonal to both the central axis ~~axes~~ of the ~~one or more~~ respective component holding member ~~members~~ and the direction of the arrangement of the plurality of one or more component holding members;

and placing each component ~~the components~~ on a circuit board on a basis of the recognized holding posture of each component on the respective component holding member ~~postures of the components~~,

wherein the image ~~images~~ of each component ~~the one or more components~~ from the direction along the central axis ~~axes~~ of the ~~one or more~~ respective component holding member ~~members are images~~ is an image of a component imaging plane of a respective component of

~~the plurality of the one or more components, a~~ the component imaging plane of the respective component being a plane orthogonal to the central axis of the respective component holding member and being a placement surface of the respective component ~~and~~ upon which light is incident, and

wherein the image of the component imaging plane of each component ~~each of the images of the component imaging planes of the components~~ is captured in a state in which a horizontal light emitting unit emits rays of horizontal light in a generally parallel direction to the component imaging plane, a vertical light emitting unit emits rays of vertical light in a generally orthogonal direction to the component imaging plane, and an inclined light emitting unit emits rays of light inclined at a generally medial angle between the rays of horizontal light and the rays of vertical light, ~~light~~ simultaneously and directly ~~illuminating~~ illuminate the component imaging plane ~~of each component~~.

13 (~~currently amended~~ ~~previously presented~~) A component placing method as defined in claim 12, wherein the holding posture of each component on the respective component holding member ~~postures of the one or more components held by the respective one or more component holding members~~ with respect to directions generally orthogonal to the central axis of the respective component holding member ~~respective central axes~~ can be recognized on a basis of the image of each component ~~images of the one or more components~~ captured from the direction along the central axis ~~axes~~ of the respective ~~one or more~~ component holding member ~~members~~, and

wherein the holding posture of each component on the respective component holding member ~~postures of the one or more components held by the respective one or more component~~

~~holding members~~ with respect to directions along the central axis of the respective component
holding member ~~respective central axes~~ can be recognized on a basis of the image of each
component ~~images of the one or more components~~ captured from the direction generally
orthogonal to both the central axis ~~axes~~ of the respective one or more component holding
member ~~members~~ and the direction of the arrangement of the plurality of ~~one or more~~
component holding members.

Claims 1-11 has been canceled.

3. The following is an examiner's statement of reasons for allowance: the prior art references fail to teach or suggest the component placing method includes "sequentially capturing an image of each component from a direction along the central axis of the respective component holding member and sequentially capturing an image of each from a direction generally orthogonal to both the central axis of the respective component holding member and a direction of the arrangement of the plurality of component holding members in which a horizontal light emitting unit emits rays of horizontal light in a generally parallel direction to the component imaging plane, a vertical light emitting unit emits rays of vertical light in a generally orthogonal direction to the component imaging plane, and an inclined light emitting unit emits rays of light inclined at a generally medial angle between the rays of horizontal light and the rays of vertical light, simultaneously and directly illuminating the component imaging plane of each component" in combination with other limitations as recited in the amended claim 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONGHAI D. NGUYEN whose telephone number is (571)272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571)-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
July 6, 2009

/Donghai D. Nguyen/
Primary Examiner, Art Unit 3729